

## DISTRIBUTED SOURCE LEARNING FOR DATA COMMUNICATION SWITCH

### ABSTRACT OF THE DISCLOSURE

5           A method and apparatus for accomplishing source learning in a data switch of the  
type having a plurality of switching modules where each supports one or more external  
network devices and a backplane interconnecting the switching modules. Each switching  
module has logic resident thereon for performing distributed source learning, including  
configuring unknown source addresses "seen" in inbound packets and for notifying the  
10 other switching modules that such source addresses were "seen" on a port thereof.  
Address-port associations are thereby configured on the switch using distributed logic,  
i.e. without intervention by a centralized management entity. In regard to configuring  
destination addresses--when a destination address is unknown, packets are delivered over  
a multicast queue until the destination address is found. Once the destination address is  
15 found, a method of flow integrity is used to avoid out of order packet delivery when the  
device transitions from using a multicast flood queue to a unicast queue.